

R. Spliet MSc.

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Publications

"Motivating preemptive GPU scheduling for real-time systems", R. Spliet, presentation in *X.org Developers Conference 2016*

"Fast on Average, Predictable in the Worst Case: Exploring Real-Time Futexes in LITMUS[^]RT", R. Spliet, M. Vanga, B.B. Brandenburg, S. Dziadek, in *Real-Time Systems Symposium 2014*

"KMA: A Dynamic Memory Manager for OpenCL", R. Spliet, A. Varbanescu, B.R. Gaster, L.W. Howes, in *GPGPU7 Workshop 2014*

Education

- 2015-present:** PhD student, University of Cambridge Computer Lab
Research on architectural design of massive parallel computation devices (e.g. GPU, vector processor) for real-time systems.
Funding: lowRISC C.I.C.
- 2010-2013:** Computer Engineering (Master), Delft University of Technology
Specialisation: General Purpose and High Performance Systems.
Thesis: A comprehensive study of Dynamic Memory Management in OpenCL kernels.
- 2006-2010:** Computer Science (Bachelor), Delft University of Technology
Final project: Data-warehousing solution for searchable patient data, for Dutch Childhood Oncology Group.
- 2000-2006:** VWO Physics/Technics (pre-university secondary education), Cals College IJsselstein/Nieuwegein

Working experience

- 2015** **Software Engineer, Ultimaker B.V.**
Linux kernel and firmware development for upcoming products. Upstream contributions to linux-sunxi. Firmware development process involved translating existing prototype to commercial grade software.
- 2014** **Student, X.org Endless Vacation of Code**
Project REclock: Reverse-engineer and implement NVA3/5/8 Voltage- and Frequency Scaling in Nouveau. Independent project that aided in strengthening analytical skills through reverse-engineering.

2013-2014 Research Intern, Max Planck Institute for Software Systems

Research towards fast and practical implementations of common real-time synchronisation primitives, following the basic futex principles. This project provided a good introduction to academic-style research and it's expectations.

2012 Intern, ARM Ltd.

Design and implement a prototype kernel-space driver and trace decoding tool for CoreSight self-hosted trace and debug in Linux.

2010, 2011 Developer, Sapito BV

Develop a PHP prototype for importing XML data from SAP to the Drupal CMS, amongst many other small additional modules for the Drupal CMS. Iterative development with short feedback cycles.

2008-2009 Junior Developer, Super de Boer Supermarkets

Several design-, management- and programming projects using Java and ABAP to improve all-round efficiency, service towards stores and to minimise human error. Make use of in-store experience (2002-2008)

Additional details

Experience:

<i>Parallel programming:</i>	OpenCL, OpenMP, pThreads
<i>Programming:</i>	C, Java, Assembly, (Oracle) SQL, (x)HTML/CSS, PHP
<i>Hardware modelling:</i>	VHDL, SystemVerilog, SystemC (limited)
<i>Development tools:</i>	Revision control systems (SVN, GIT) Hardware modelling (ModelSim, Xilinx ISE) Testability (Cadence)

Languages:

<i>Dutch</i>	native
<i>English (UK)</i>	fluent, ECRTS 8.0/CEFR C1
<i>French</i>	basic understanding, CEFR B2
<i>German</i>	basic understanding

Interests:

Computer architecture, parallel computation, kernel-, driver- and compiler development, hardware modelling, software systems, canoe polo, music and latin dance.

Projects contributed to:

Nouveau (OSS reverse-engineered driver for NVIDIA GPUs): Contributions in documenting power management functionality, implementation of frequency scaling for NVIDIA ION and second generation Tesla, improvements to the various shader compilers.

LITMUS^{RT} (OSS Real-time scheduling extension on Linux): Enhancements and fixes for ARM and other platforms

Drupal (OSS Content Management System): Module prototypes for extended functionality.